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(54) **Method for removing a substance from a substrate using electron attachment**

(57) A method for removing a substance from at least a portion of a substrate which may be for example, a reactor or a semiconductor material, is disclosed herein. In one aspect, there is provided a method comprising: providing a reactor having a surface coated with a substance; providing a first and second electrode in proximal to the reactor wherein the first and second electrode reside within a target area; passing a gas mixture comprising a reactive gas into the target area; supplying energy

to the first and/or the second electrodes to generate electrons within the target area wherein at least a portion of the electrons attach to at least a portion of the reactive gas thereby forming a negatively charged cleaning gas; contacting the substance with the negatively charged cleaning gas which reacts with the substance and forms a volatile product; and removing the volatile product from the reactor.

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The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
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